

CONSERVATION OF TOMB OF KHAN-E-DAURAN

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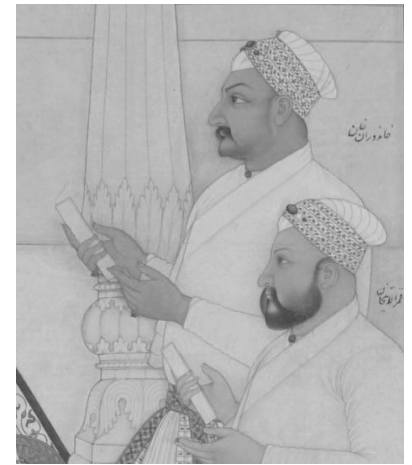
INTRODUCTION

Conservation of cultural heritage is one of the most important but sadly a much neglected subject in our country's history. Pakistan is fortunate in having cultural heritage in the form of archaeological remains from different eras and even from the prehistoric times. The country's location at the crossroads of several trade routes, gave rise to a large number of monuments and historic sites. These were located in, and near, ancient settlements and cities such as those of the Indus valley, and the others such as Taxila, Makli, Lahore and Rohtas. These are but a few examples of the large reservoir of the country's architectural heritage.

Considered to be the cultural capital of Pakistan, Lahore remained an important city of the Ghaznavids and the Mughals. The Ghaznavid period

in Lahore marks the beginning of a new culture of mosques, temples, gurdwaras and residential architecture. The co-existence of several religions shaped the intangible culture of Lahore. Lahore was the capital of Mughal Empire during Akbar's reign from 1584-1598, during which period he built the fortification wall around fort and the city. Mughal emperors who followed Akbar also contributed significantly to the city's building stock and made additions in every corner of the city. Besides the shrines of saints there are a number of tombs belonging to Mughal nobility spread all over old Lahore.

Like any other superlative and top-notch monument this tomb also narrates the story of the achievements of Mughal period's nobility and sheds a bright light on the architectural advancements of that era. Its dire condition required immediate efforts at conservation in order to preserve a piece of the realm which has been overwhelmed by the ravages of time.



The tomb of Khan-e-Dauran is one of the most outstanding monuments of the Mughal emperor Shah Jahan's period. It is situated two kilometers east of the walled city of Lahore on the Grand Trunk Road at 31°34'34.4"N 74°21'21"E . Maps of the British period show that the tomb was built north of Bbuddhu ka Aawa, a kiln of the Mughal era.

Historical records and evidence from the tomb of Khan-e-Dauran indicate that it was renovated twice. The last renovation was undertaken soon after independence but was carried out without considering any ethics or rules of

conservation. For example no original materials were used in this last renovation. In addition extensive use of cement concrete in plastering and lime- cement mortar in masonry construction altered the physical appearance of the tomb. It was, therefore, important that this monument be saved from further deterioration and an attempt be made to bring it back to its original glory and appearance.

The students and staff of the

Department of Architecture of the University of Engineering and Technology (UET), Lahore, can take genuine pride in having undertaken the cleaning of this important monument and conserving it against further decay. The project was carried out from 17th feburary, 2014 till 3rd may, 2014. The basic aim of the whole exercise was to inculcate these architecture students with the importance of conservation, and introduce them to application of traditional materials.

Students were given opportunity to have a hands-on experience at the site in order to appreciate the

sensitivity which must accompany conservation of historic monuments. The United States Educational Fund in Pakistan was extremely generous in providing necessary funding for conducting a workshop on conservation. Moreover the U.E.T. administration and Chairperson of Department of Architecture took special interest and had significant role in execution of this project. The students trained in the workshop gained valuable knowledge with which they were not familiar before. This publication provides a brief overview of the history and architecture of Khan-e-Dauran's tomb. It also highlights the various efforts which were put into it by the staff and students of the UET at every stage from cleaning to actual repairs.

Lahore, a cultural center and important city throughout its history, offers a timeline of success, glory and splendor of assorted emperors and kings in the form of a distinct typology of funerary architecture. The tombs, both of the royalty and the nobility, illustrate the fine aesthetic for architecture that evolved during the city's history of the past thousand years. These tombs have also helped to advanced knowledge of different dynasties for contemporary historians and building professionals.

LIFE HISTORY

Khan Dauran, whose real name was Sayyed Mehmood, was Nusrat Jang's middle son. After his father's death he took over the *mansab* of one thousand horsemen. He soon surpassed his elder brother, Sayyed Muhammad, in display of bravery and valor. In the twenty- second year of the reign of Shah Jahan's he received the rank of 2000. He accompanied Prince Aurangzeb in the battle of Qandahar. In the twenty third year of reign of Shah Jahan he received the former title of his father Nasiri Khan and made in charge of Malwa and was also assigned to look after fort and land of Rai Sen.

Zilhaj of 1039 and sent to succeed Rao Ratan. He had been appointed to serve alongside Raja Jai Singh who was attempting to take over Telingana and the fort of Qandahar. In short time Nasiri Khan proved himself master of outworks and valiantly engaged in besieging the citadel of Qandahar. Soon the fort of Dharur with attached villages fell under the rule of the royalists and Sangamner, Vaijpur and Junnar and their nearby towns were taken over. After these conquests other than Daulatabad and a few places around it, nothing remained to Nizam al Mulk(Inayat Khan, 1630).

Nasiri Khan was given the title of '*mansab*' in

Forceful attempts were made by Nasiri Khan to take over Qandahar which was under the protection of Sadiq, son in law of Yaqut Khudawand. While he marched towards a strongly protected fort of Qandahar he was attacked by Sarafaraz Khan and his forces who were taken over by the valorous charges of Nasiri Khan's comrades. The defeated forces immediately fled to Nizam al Mulk's army leaving the royalists with 500 horses' 100 camels, vast amount of property and 5,000 to 6,000 prisoners all of whom were released in gratitude of the victory. Nasiri Khan made valorous moves while besieging the fort and gained firm footing by finally eliminating the enemy through matchlock and strategic attacks at the counterscarp. He blew up a tomb structure of a party which was constantly attacking his army with grenades and rockets. After which they established an entrenchment on the site of the building and occupied it. (Inayat Khan, 1630)

Soon after Randola, Muqarrab Khan and other Adil Khanis and Nizam al Mulkis assaulted the trenches of Nasiri Khan but despite the enemy being greater in number they had no choice but to give way three *kos* to the rear. This victory encouraged Nasiri Khan to charge

three mines with gunpowder and hold three other in reserve which he could explode at pleasure out of the twenty one he had completed. When the garrison sensed that they had been overpowered they sued for quarter pardon to the gateway with the help of Raja Bharat. Thus in the middle of Shawwal of 1040 (mid May 1631) the fort was captured.

When Nasiri Khan arrived at the court from the fort of Qandahar he was exalted to the rank of '*mansab*' of 4,000. After being showered with innumerable gifts he was sent to Balaghat. At his request he was also given the insignia of mahi-marateb which at that time was only given to the rulers of Deccan. All *mansabdars* appointed to accompany him were treated with great respect. Later he was sent to Balaghat along with nobles and *mansabdars* and given mahi-marateb insignia of rank which at that time was used for the rulers of Deccan. (Inayat Khan, 1630)

The fort of Khatakheri in Malwa, which was under the rule of Bhagirat Bhil, was taken over by Nasiri Khan who then raised the standard of Islam over the disbelievers and overthrew the temples of their idols. Other conquests continued such as the capture of Daulatabad Outer Fort during which Khan Zaman ordered Nasiri Khan, Mubraiz Khan, Rao Satr Sal and Rao Karan to remain in trenches which they

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were digging while occupying 'Ambar Kot' and to continue digging and providing material for

the conquest of the second fort. When the enemy appeared at Uparkatka the commander in chief sent Nasiri Khan, Luhrasp and others to oppose them. As soon as they arrived their opponents fled to the hill of Elura. Three divisions were united after the triumph of overtaking Uparkatka where sixty insurgents were taken by sword and the remaining retreated. Following the capture of Daulatabad in Zilhaj of 1042 (early July 1633) Nasiri Khan was given the honourable title of Khan Dauran and his *mansab* was increased by 1000 to 5000 *zat* and *suwar* by the royalist. His Majesty gave him a robe of honour with a tunic of buttons made of rubies and pearls, a

jewelled sword, two fine horse's one with gold and the other with gilt saddle and a magnificent elephant with silver housings. The commanders and nobles who had valiantly fought alongside Khan Dauran were also bestowed with gifts according to their rank. (Inayat Khan, 1630)

On the demise of Mahabat Khan, Khan Khanan, a number of Nizam al Mulkis and Shahuji started suppressing the country around Daulatabad. Despite this area being separate from Khan Dauran's jurisdiction he proceeded to quell the insurgents. When the rebels heard of Khan Dauran's arrival to Khriki they became panic stricken and fled from their posts to Ramdoh. He followed them heading towards Sheogaon and eventually took over the whole camp belonging to Shahuji and other rebels in addition to 8,000 bullocks laden with grain, arms and rockets and 3,000 prisoners. Khan Dauran headed towards Paithan after confirming that the fort at Ahmadnagar was well garrisoned and provisioned.

It was ordered by His Majesty to chastise the traitor of Jujhar. For this 20,000 horsemen were sent under the command of three leaders namely: Abd Allah Khan, Sayyid Khan Jahan and Khan Dauran, who after the pursuit of Jagraj was waiting for instructions in Malwa. He was created governor of Malwa and instructed to proceed with the nobles and *mansabdars* of that province. They had to go through Chanderi to the neighborhood of Pichor and then encamp till the rains ended. When the enemy realized there was no escape than to surrender they begged Khan Dauran for quarter. Ultimately Khan Dauran was successful in taking over all the wealth and property contained in the fort and entrust it to his confidential agents. He also found three wells full of gold which were dug by Jujhar for secreting his treasure.

Next the fort of Chauragarh was seized upon entering which Khan Dauran uttered aloud the summons to prayer. Following this was the recovery of Jujhar's hidden treasure from the state coffers and victorious proceedings towards Daulatabad. In search of treasures from the fort of Jhansi and the vicinity of Datia were found 28 lakh rupees. Khan

Dauran arrived at the court from Chanda and paid respects by presenting a nazar offering of 1000 gold mohurs and five lakh rupees received from the zamindars. He also brought forward property belonging to the Bundela rebels. In return he was showered with various favours such as the title of Bahadur and 100 horses. The royalists next aimed at engulfing the suburbs of Daulatabad which were under Adil Khan and for this task three different forces were assigned the duty namely Khan Dauran Bahadur, Khan Zaman and Shaista Khan. The force under Khan Dauran comprised of various nobles and manasabdars, Deccanis and almost 20,000 horsemen. They were directed to head towards Qandahar and Nander which was a town in Golconda territory.

Immediate steps were taken to reduce the forts of Ausa and Udgir and pickets were positioned to protect the travellers from enemy's attacks. When Khan Dauran was given a farman to invade from Bidar side he soon took over by carrying off most of the cattle, wealth and property belonging to the people of the town. Next he headed to Narainpur which was one-half *kos* ahead executed the same unsparing capture of the town. He then headed towards Kamthala which was a

thriving and flourishing place almost ten *kos* from Bhalki and two from Bidar. All places which he crossed were plundered and destroyed during this time and in a duration of three days, fifty places were overrun and taken over by his army. Next Khan Dauran moved his camp from Bhalki to Deoli, three *kos* from Udgir where he ordered the soldiers to take the booty and heavy baggage of the army to Nander and then rejoin the headquarters. He soon took over the army he had marched away from by driving them to the ground. Due to lack of provisions in the villages of Bijapur he set out towards Talpali and other flourishing places forming the jagir of Yaqut Khan's grandson. Later he headed towards Sultanpur and Hirapur and desolated all the fertile areas of the country adjoining Qutb al-Mulk's frontier.

The forts of Ausa and Udgir were captured by Khan Dauran,

which upon arrival he claimed to have been taken over by the imperial dominions and hence be given up so that the lives and property of those people can be spared. Initially they did not comply but their pride was soon overthrown. After Khan Dauran's men had encircled the citadel on all sides and blocked underground passages of approach the enemy ultimately started to surrender. The conquests by the Khan were far and wide including the capture of Keljhar, Ashti and Nagpur Forts.

On the occasion of Nauroz, festival of illumination, Khan Dauran Bahadur was awarded the exalted title of Nusrat Jang by the king along with a present of an expensive robe with gold embroidered tunic, a jeweled dagger and a sword with incised ornament, two steeds with gold and gilt saddles and an elephant with silver housings. He was also given the *mansab* of 6,000 along with Raja Jai Singh and some other of the Khan's comrades.

After the account of subjugation of the territory of Ajina in Bihar the peshkash offering of Khan Dauran Nusrat Jang Governor of Malwa, was presented, which comprised of 2,000 bolts of do-damni flowered cloth.

The same cloth was used for the apparel of the king and a single garment at that time cost eighty rupees. After being granted winter robes Khan Dauran and other chiefs were appointed to service in Deccan. This was followed by the dismissal of Prince Muhammad Shah Shuja' Bahadur towards Kabul. Khan Dauran was invited to court and asked to join him along with several nobles serving in the province of Malwa. Wazir Khan who was the governor of the capital of Lahore was ordered to head towards Kabul and make sure that there was abundant supply of grain available for the army during their march.

On the auspicious festival of n auroz, held on Zi'l-Qa'da 1048 (25 April to 3 May 1639), the royal Prince Dara Shikoh, who was the heir, waited for the king and upon his arrival presented a nazar offering of 1,000 gold mohurs. The principal commanders of the army who were along him including Khan Dauran Bahadur Nusrat Jang and Sa'id Khan Bahadur Zafar Jang paid homage to him. The remaining nobles and *mansabdars* presented nazars according to their rank and dignity (Inayat Khan, 1630).

The news of the death of Shah Safi and the return of

Prince Dara Shikoh to court was soon widespread. Khan Dauran Bahadur Nusrat Jang and Sa'id Khan Bahadur along with 30,000 men were sent to Qandahar to confirm the Shah's death. The same year the Fort of Ginnur was captured through the exertions of Khan Dauran Bahadur and Muhammad Sultan presented a nazar offering of 1,000 mohurs, a rosary of pearls and two Arab horses (Inayat Khan, 1630).

Khan Dauran was brutally stabbed near night-time two *kos* from Lahore by the son of a Kashmiri Brahmin whom he had converted to Islam. He stabbed a sharp dagger into his stomach but soon after this was captured and instantly slain. This took place on the 8th of Jumada I (2 July 1645). In his will Khan Dauran left behind for his sons a share of cash and goods he possessed in Akbarabad, Lahore, the Deccan and Malwa. The rest of his wealth of sixty lakhs of rupees was given over to the state. By the time of his death in 1645, Khan-e-Dauran had been promoted to the highest imperial rank held by a person of non-royal blood (Inayat Khan, 1630).

CONSERVATION PRIORTIES

The tomb had remained neglected in the past and no serious effort was ever made to bring it back to its former glory. In this connection efforts were made, as described later, to undertake necessary repairs in order to protect it from further decay. These efforts included carrying out the necessary repairs using original materials and methods of construction. Minimum intervention was to be carried out while at the same time it would be ensured that all interventions would be reversible. The following priorities were kept in mind while undertaking the conservation work:

Structural Consolidation: The topmost priority was structural consolidation. The south wall and corner buttresses had been badly damaged over time. In addition bricks were missing from the northeastern and northwestern buttresses. The missing brickwork could have created serious threat to the structure. The missing brickwork under the opening in the south wall and in the corner buttresses in the north wall was taken up on a priority basis. Special-sized small bricks were used in the restoration and structural consolidation.

Preservation: Another main priority was to preserve the original construction and finishes. There was some original historic plaster under the soffits of the arches which had qalib-kari and fresco paintings. During the conservation process all original plaster was preserved and protected. Efforts were also made to use original size bricks in the structural consolidation.

Cleaning: The tomb was extensively cleaned from the interior and the exterior. Due to its location on the Grand Trunk Road, the monument had been badly affected by air and dust pollution. With the removal of layers of pollution the monument was brought back to its formal glory.

Restoration: In the past cement and concrete had been extensively used for plaster work both in the interior and exterior. Similarly, a rich mixture of mortar had been used for plaster work. Such mortar was removed from the walls and original lime- mortar was applied to get the desired result.

Repairs: The plaster over the drum had been damaged at certain places. The damaged plaster in such areas was repaired using lime-mortar to avoid further deterioration.

Authenticity: Utmost care was taken to maintain the authenticity of materials, methods and form of construction so that the monument could be preserved in its original glory . Pure kankar lime-mortar which was obtained from Kasur, was used throughout the plastering and the repair of brick masonry construction. The first layer comprised of fine and coarse kankar lime mortar; a ratio of 2:3 was used. The final layer of plaster was applied using pure fine kankar lime with the addition of jute.

In order to maintain the authenticity of the form stencils of the arches were cut and plastering was applied accordingly to maintain consistency of the forms of arches.

DAMAGE ASSESSMENT

The structure of the tomb had been affected due to several reasons. The principal causes of the decay are listed as follows:

Aging: The tomb was built more than 350 years ago and since then no serious efforts had been made to undertake the necessary repairs. The roof projection over the circumambulatory space around the tomb had collapsed a long time ago. The glazed tiles over the east and the south sides had disappeared. In addition the glazing over the tiles was chipped off at several places. These decayed tiles had accumulated dust and water which may have caused

additional decay. Some of the deteriorated bricks also needed repairs.

Inappropriate Repairs: In the past some repairs were carried out using inappropriate materials. The use of cement lime mortar had produced a mortar that was brittle resulting in weak brickwork. In addition, the extensive use of concrete over the walls had also damaged the original brickwork.

Air Pollution: Air pollution was another important cause for decay of the external plaster. A thick layer of dust along with carbon emitted by vehicular traffic had damaged the pucca kali plaster applied over the transition between the octagonal zone and the circular drum of the structure. Due to rains and dust this carbon had hardened after accumulation and had become a permanent layer over the final finish of glazed plaster.

Human Neglect: The monument had remained neglected since its construction. Evidence shows that no proper periodic cleaning or repairs had ever been undertaken, resulting seepage of water at the base of the walls had affected the brickwork. The interior of the tomb structure had also not been cleaned for a long time and, therefore, the walls were dusty which could easily damage the internal finish, especially with the presence of the moisture content in the humid season. The bricks over the grave had also fallen apart a long time ago and had not received the attention of the conservationists.

CONDITION SURVEY

With the passage of time the tomb of Khan-e-Dauran, like many other monuments in Lahore, had been exposed to harmful treatment from nature and suffered the vandalism of man at the same time. The structural masonry of the monument was damaged and had fallen off many parts of the building. The original lime plaster of the exterior and interior was nowhere to be seen as the last renovation work had not been undertaken by properly following the ethics of conservation. The tomb building below the cylinder of the dome was completely covered by cement plaster. This disregard and negligence towards ethics of conservation had

led to the process of deterioration. The outer platform of the monument had also deteriorated. The corners of platform were broken at several places and consequently disappeared from some places. The physical evidence shows that the outer circumambulatory dalan had completely disappeared. The side pillars at the rear indicate that the roof structure of the dalan had rested on arches placed at each corner but all visible evidence had been completely wiped out during the last repairs.

The monument was lime plastered originally, subsequently replaced by cement plaster. But even this makeshift solution had withered over time and exposed the structure from the exterior as well as the interior. Not only had the bricks fallen off but the rest of the structure had also weakened and thus had become more vulnerable to further decay; all this was easily visible on close inspection. The tilework on the dome and cylinder on the exterior and Qalib kari on soffits of arches had also deteriorated and required immediate conservation to avoid further decay. Though tilework could still be retraced from existing evidence at the site, however, Qalib kari is in the worst condition and only a few remains are left of what once would have been a work of glorious art.

Further, this mausoleum has been immensely damaged due to the adverse affects of weather, temperature variations, earthquakes, direct impact of rain, strong winds, pollution, vibrations of heavy traffic on G.T. Road and other natural hazards , and the damage is visible on its exterior on all sides.

Therefore, the proposal for the conservation/

preservation and restoration of this monument was prepared by taking all the precautionary measures in its conservation and restoring it to its former glory. It may be added that the steps taken for the conservation of the tomb were on a limited scale and specifically for teaching purposes only. The government department responsible for maintenance and preservation of these monuments should take the next step and take it to a next level leading to its complete conservation including restoration of glazed tiles. The conservation problems enumerated may need substantial funds. It is also recommended that the internal brick-on-edge flooring may be re-laid.

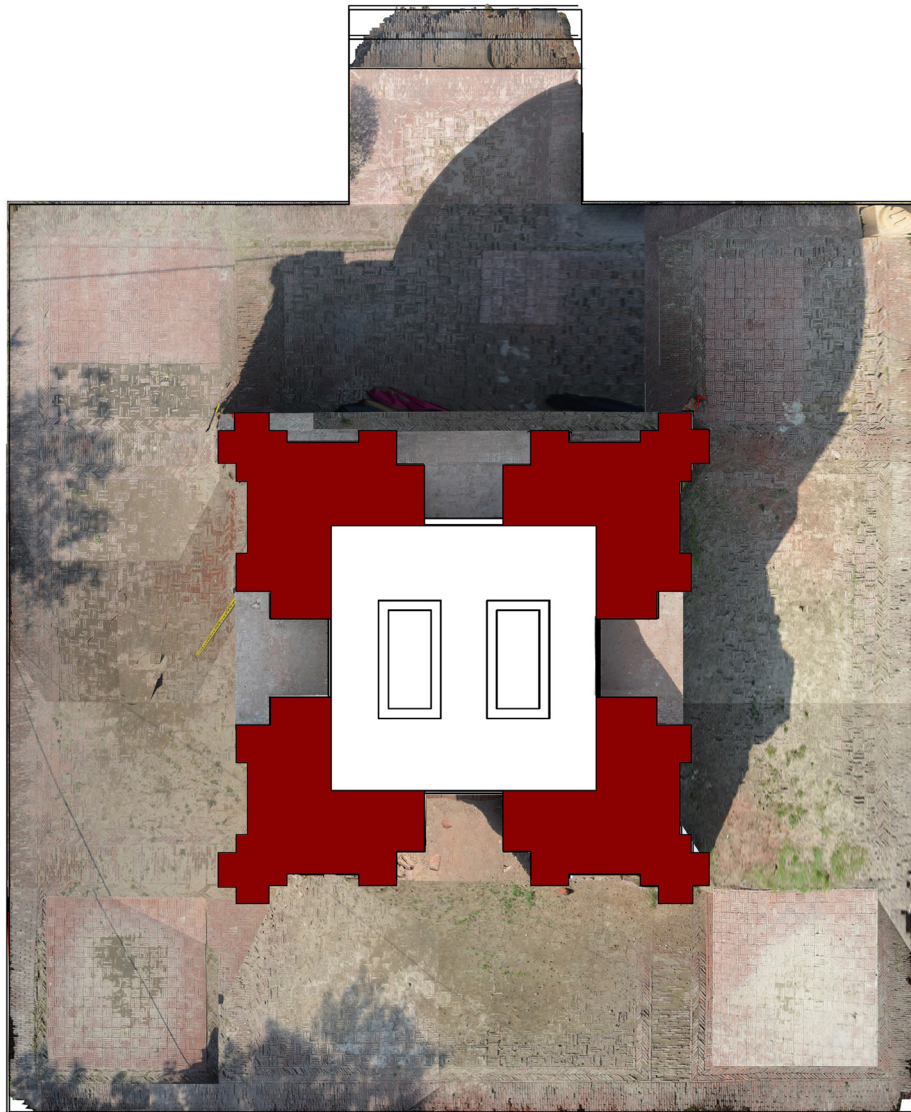


PLAN

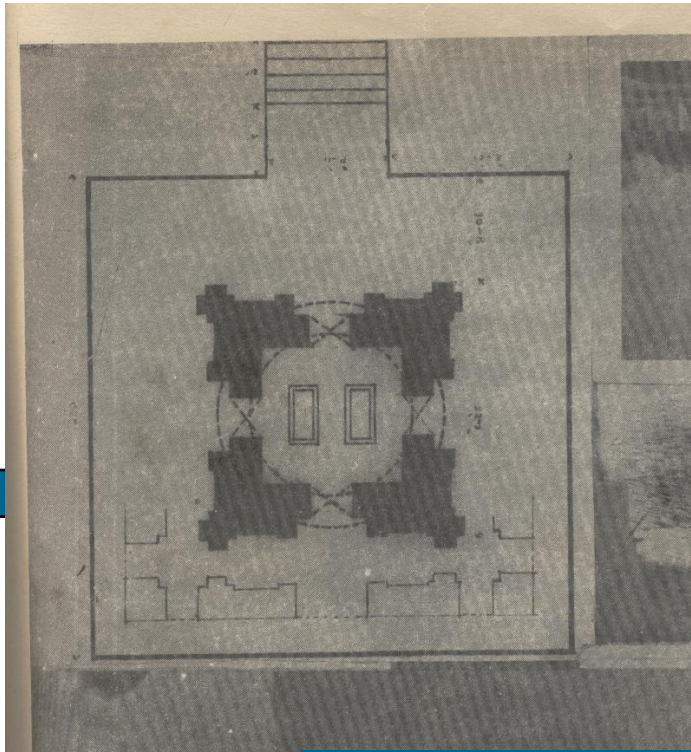
The tomb rests on a podium measuring 46'-3" square. The tomb's chamber is square in plan measuring 25' square on the exterior and 13'-6" square in the interior. There are four openings, one on each side. The south side opening was filled with brickwork during the last repairs. These openings were made wider in the exterior with shallow *Peshtaqs*, and smaller in the interior. The exterior arched openings are higher while internal openings are flat and low in height. The difference between *peshtaq* and the opening is treated with *qalib-kari* and finished with *khat kashi* and fresco paintings, traces of such finishes survive on

the south-side wall. There used to be a *dalan* or circumambulatory corridor on all four sides which fell down a long time ago.

The zone of transition to the circular dome is octagonal in plan; this transition was achieved with the help of squinch arches. Above the squinch arches rises a low-pitched internal dome. There are four ventilators at the squinch-arch level which slope down from the exterior to bring light into the room chamber. There are two graves in the middle of the chamber. According to Chughtai, Khan-e Dauran's wife lies buried in the second grave.

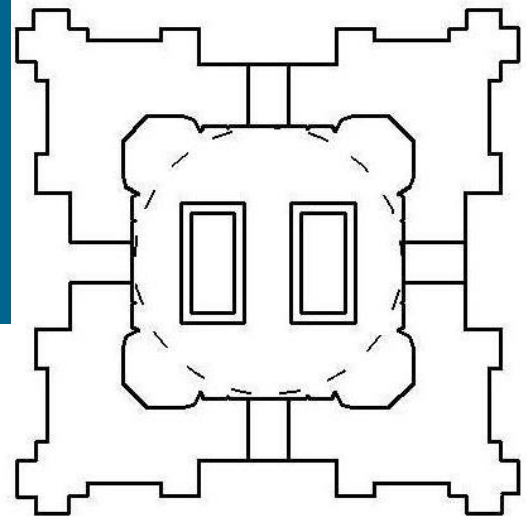


Floor Plan



The plan at the level of zone of transition shows that a square plan has been converted into an octagon with squinch arches supporting the interior dome. Square plan meets the octagon and squinch arches at four corners to smoothly transit from a square form to a curved spherical dome. The external double dome rests on the walls outside these arches and is visible from some distance.

After finding the evidence Chughtai drew the above plan to show the possible circumambulatory corridor on the south side of the tomb. The width of the verandah in Chughtai's plan is quite less and it might have been wider. The details of this part can not be located but it can be assumed that this part also matched the rest of the tomb in finish and was lime plastered as well.





This picture was taken in early twentieth century (1920s) which shows that the platform at that time was covered in mud and clay. The tomb was located on an open patch of land with a few trees scattered all over the site. The verandah or the circumambulatory space around the tomb had fallen.

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The picture on the lower left corner is also from the 1920s. Later in the same decade the clay was removed from the site and the platform was restored. Tiles from the dome were missing and most of the plaster had fallen. A signboard was placed to declare the site as a national heritage.

Elevations

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Like all other Mughal buildings its four façades are symmetrical. The facades are vertically divided into four parts. The lower portion contains an opening in the middle of the wall flanked by two blind arches. These arches are framed by borders executed with lime plaster.

Above this portion lies an octagonal zone of transition, 3'-4" in height. The zone of transition contains four openings for light and ventilation of the interior. It was plastered and finished with pucca kali.

Above the zone of transition lies the high drum which was the main feature of the tomb's

exterior. It was finished simply with pucca kali.

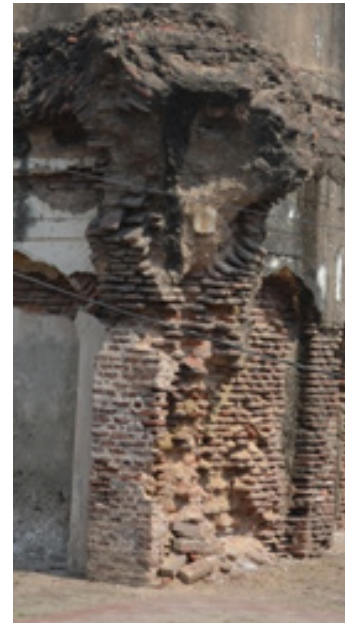
There is a clearly defined neck of the dome which was finished with kashi kari having floral designs. Finally the structure is crowned with a low pitched dome with glazed tiles in a zig-zag pattern. At the apex of the dome lies the kalas with ribs radiating from the center.

Besides cleaning and removal of undesirable sources of decay, south elevation needed some serious restoration work. The corner pillars were badly dilapidated and most of the bricks of the south wall had fallen.

SOUTH ELEVATION



Beside cleaning and removal of unwanted decaying sources, south elevation needed serious vital restoration work. The corner pillars were badly dilapidated and most of the bricks on south wall had fallen.



The pillars supporting the south side entrance had fallen as shown in the picture given below. Bricks were mostly, loosely bonded, leaving the structure vulnerable. As a first step these loose bricks needed to be replaced.

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Negligence, age and other sources of decay and deterioration had dislodged plaster from many parts exposing brickwork underneath. Maintenance work done previously did not use original materials. The use of cement and concrete had further damaged the brick walls. Plaster was also wiped out over the arches exposing brickwork underneath .



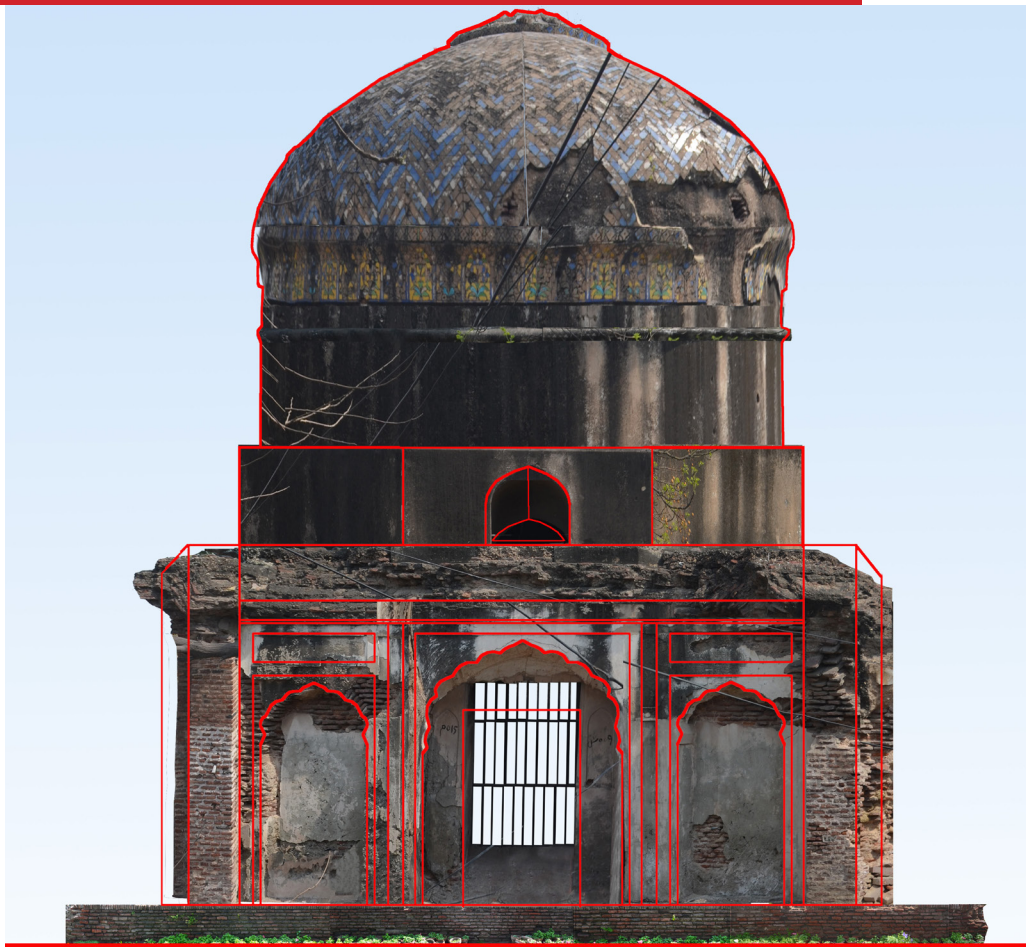
Arched niche located on the eastern side of the south facade shows a similar dilapidated state. Bricks have either fallen or are only loosely attached. The arch itself has been deformed to such an extent that it is difficult to understand both its geometry and shape. Once again it was the cement finish which was found to be the main reason for this quick distortion even after renovation work. This side required a large amount of reconstruction of brickwork apart from application of lime plaster.

Tile-work on the dome's south side has mostly disappeared. Its top/pinnacle was also damaged and vegetation and grass could be seen growing on it which would worsen the condition over time. Cleaning of both the dome and the drum is required along with removal of carbon and vegetation over the drum and the dome if nothing else could be done.



WEST ELEVATION

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West side of the tomb does not present a better situation. This side of the dome was also in need of cleaning and fixing of damaged tiles to protect it from further deterioration. Glazed finish over the tiles had also eroded.



Both brick and plaster had deteriorated on the entire facade. The arched niches were in bad shape. The profile of the north-west arch was missing. The brickwork was loose and was hardly stable. The incompatible loose cement plaster needed to be removed. The brickwork required close inspection before the application of new kankar lime plaster.

EAST ELEVATION

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The brickwork on the east facade was relatively better but cement concrete plaster had deteriorated completely. Bricks had fallen from pillars and a few from the arches as well. After the removal of cement concrete plaster it was found that brickwork at a few places was in bad shape.

NORTH ELEVATION

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The brickwork on the north facade was in relatively good condition. However, cement concrete plaster was in bad shape. The exact profile of the multifoil arches executed in lime mortar was also broken. Brickwork was obscured by cement concrete plaster. After the plaster was removed it was revealed that the brickwork underneath was in bad shape. This unforeseen discovery increased the amount of labor and time which would be required to restore the building. It was also necessary to replace cement plaster and mortar by original kankar lime. In this way the building could be preserved for a longer period and require less maintenance as lime mortar gains strength with the passage of time.



SECTIONS

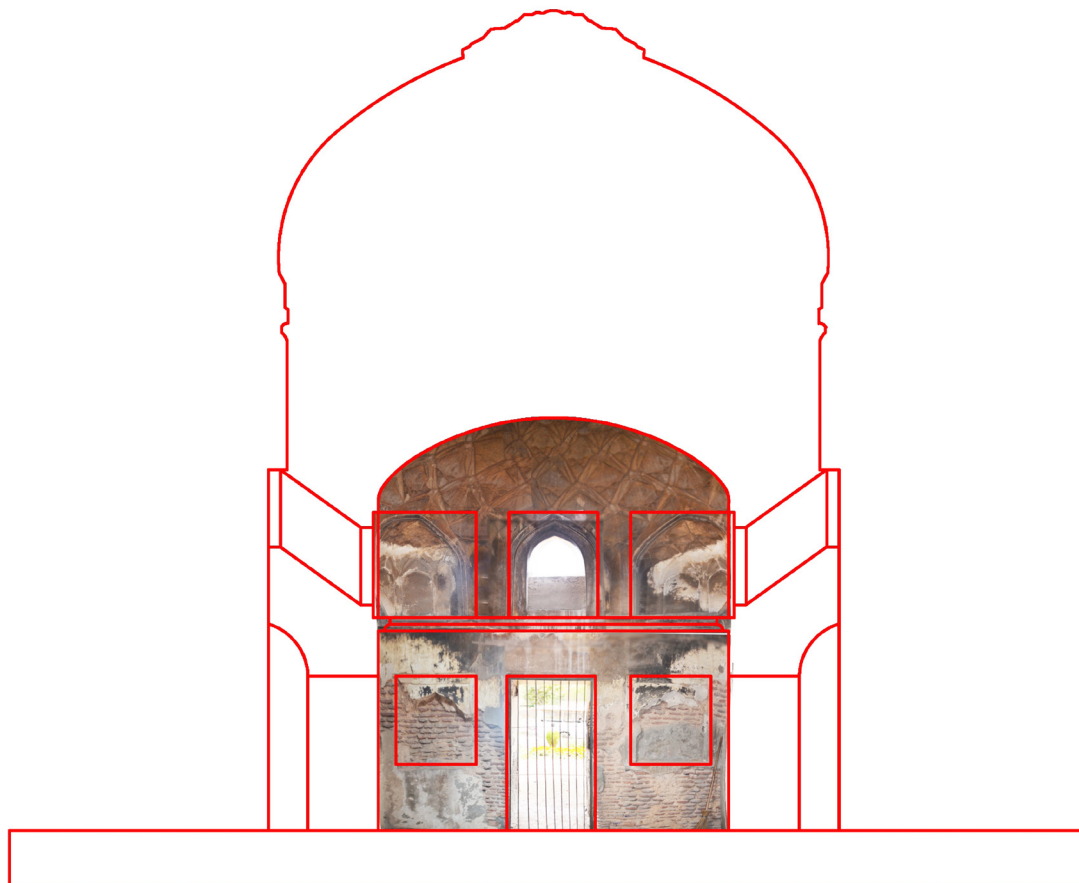
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The tomb is unique in terms of its form of construction. In order to make the structure monumental a different technique has been adopted. Just above the zone of transition a high drum rises up to support the external dome. The structure between the internal dome and external dome is hollow as no opening exist between th two. Generally an opening is kept in the drum between the internal and external dome but in the case of tomb of Khan-e Dauran no opening was left between the two. But there are also several examples where opening do not exist. The other close enough is tomb of Dai Anga. On the

other hand the example where such openings exist are the tombs of Asif Khan and Ali Mardan Khan and Mosque of Wazir Khan.

The walls are 3 feet thick at the base and 2.667 feet thick at the zone of transition. The entire construction was carried out in brick masonry using lime mortar. The proportion of the interior of the tomb chamber is psychologically comforting relative to its monumental external appearance from the Grand Trunk Road.

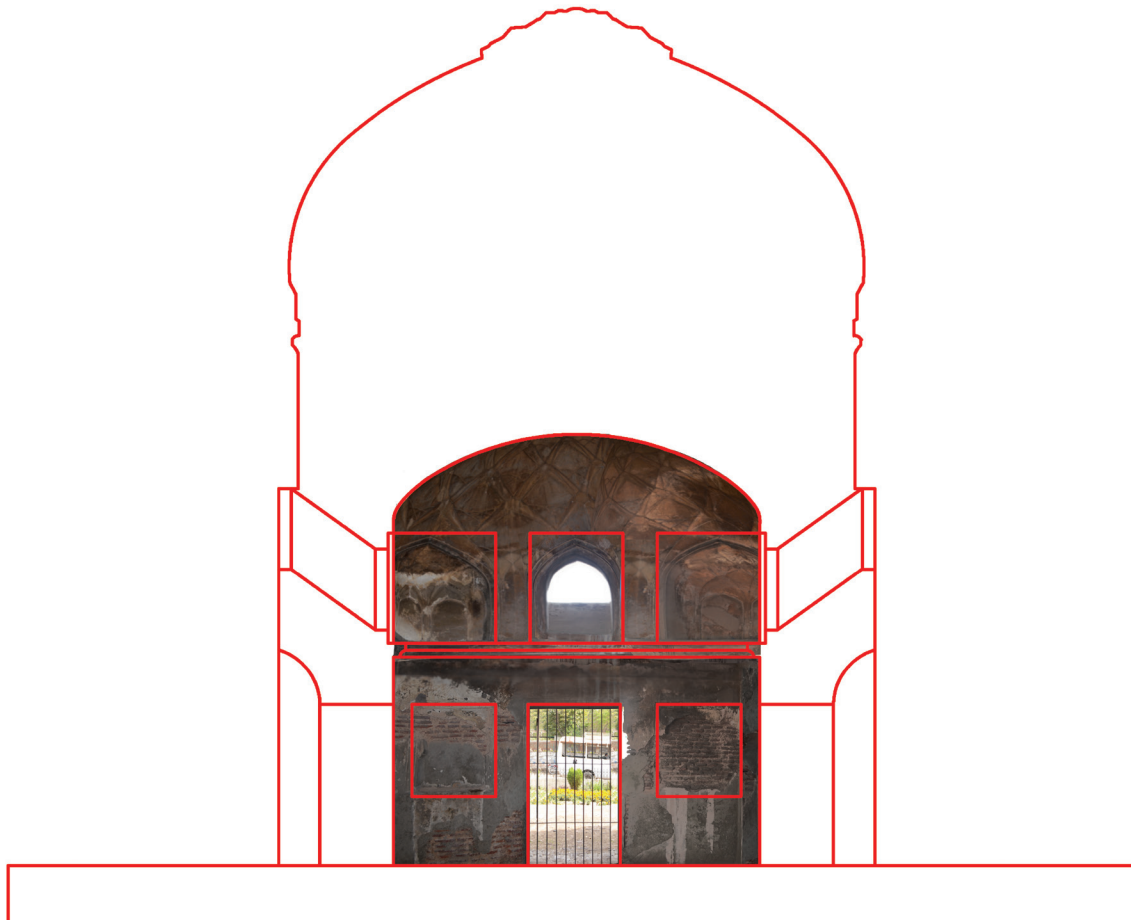
Section showing interior of North Wall



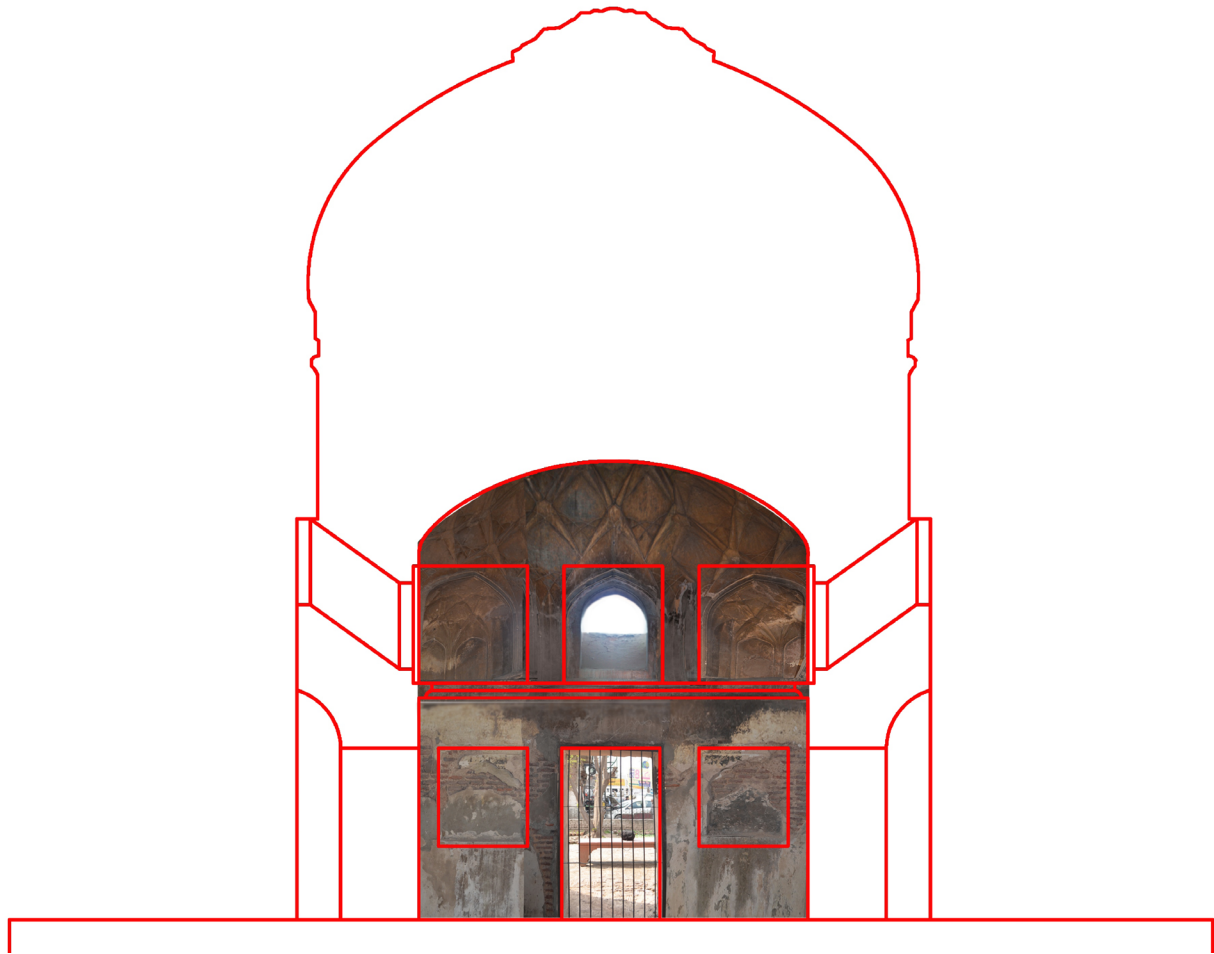
The condition of interior brickwork and cement concrete plaster was not any different from the exterior. The profile of multifoil arches over the niches was completely damaged. Negligence had greatly affected the structure from the inside as well. Most of the plaster had fallen from all sides and the brickwork was also in bad shape. Images below show interior of north wall on the left and east wall on the right. Both the walls required similar restoration work as was carried out on the exterior.



Section showing interior of East Wall



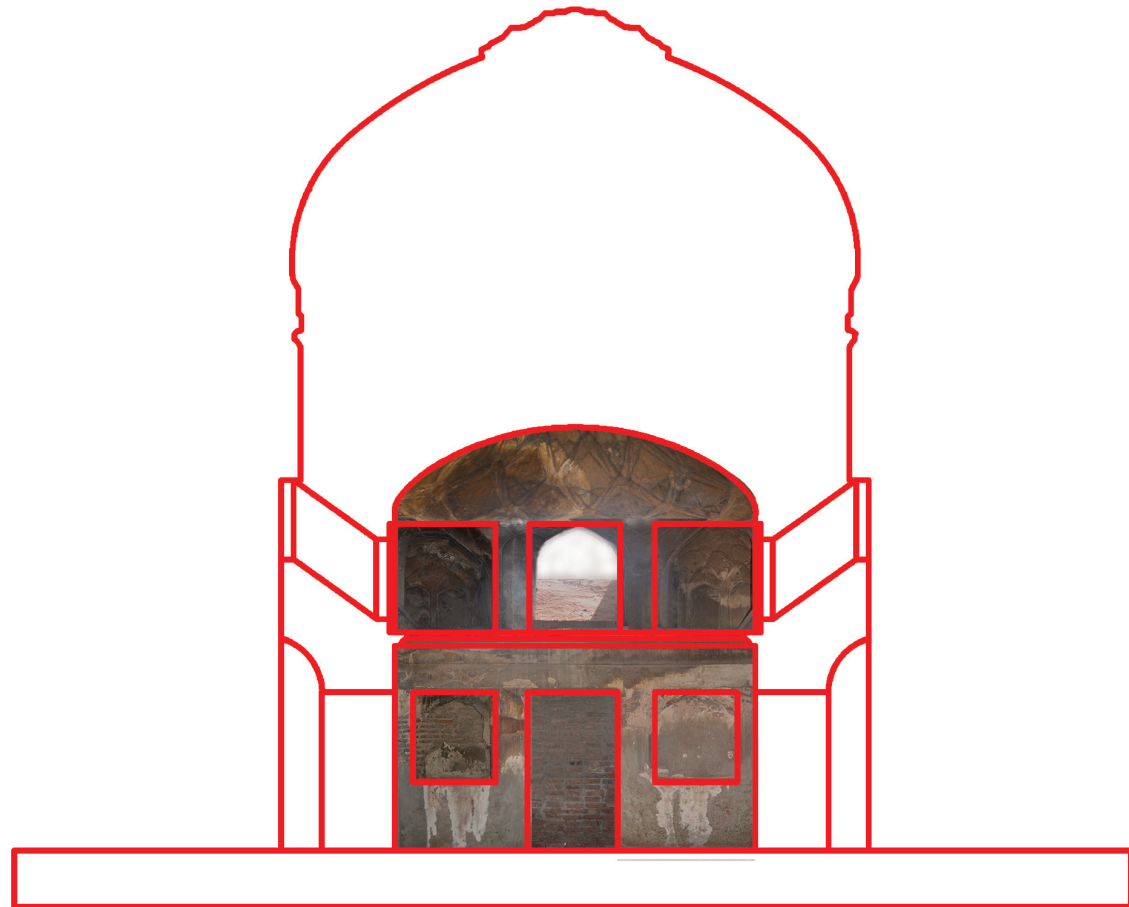
Section showing interior of West Wall



Images given below show the existing condition of the south wall on the right and west wall on the left. It is quite clear that the physical condition on all four sides is similar and needs removal of cement plaster and application of new lime plaster. Arches are also deformed and south entrance is blocked with modern size bricks.



Section showing interior of South Wall





There are two graves inside the tomb chamber. These graves were built with traditional bricks and fell apart with the passage of time but were renovated and the bricks fixed. According to Chishti, Khan-e-Dauran built this structure as a final resting place for his wife but his son also buried him in the same structure soon after his tragic murder. According to Chishti Khan-e-Dauran rendered service as Nazim of Lahore for some time during the reign of Shah Jahan.

Detailing and Decorations

40

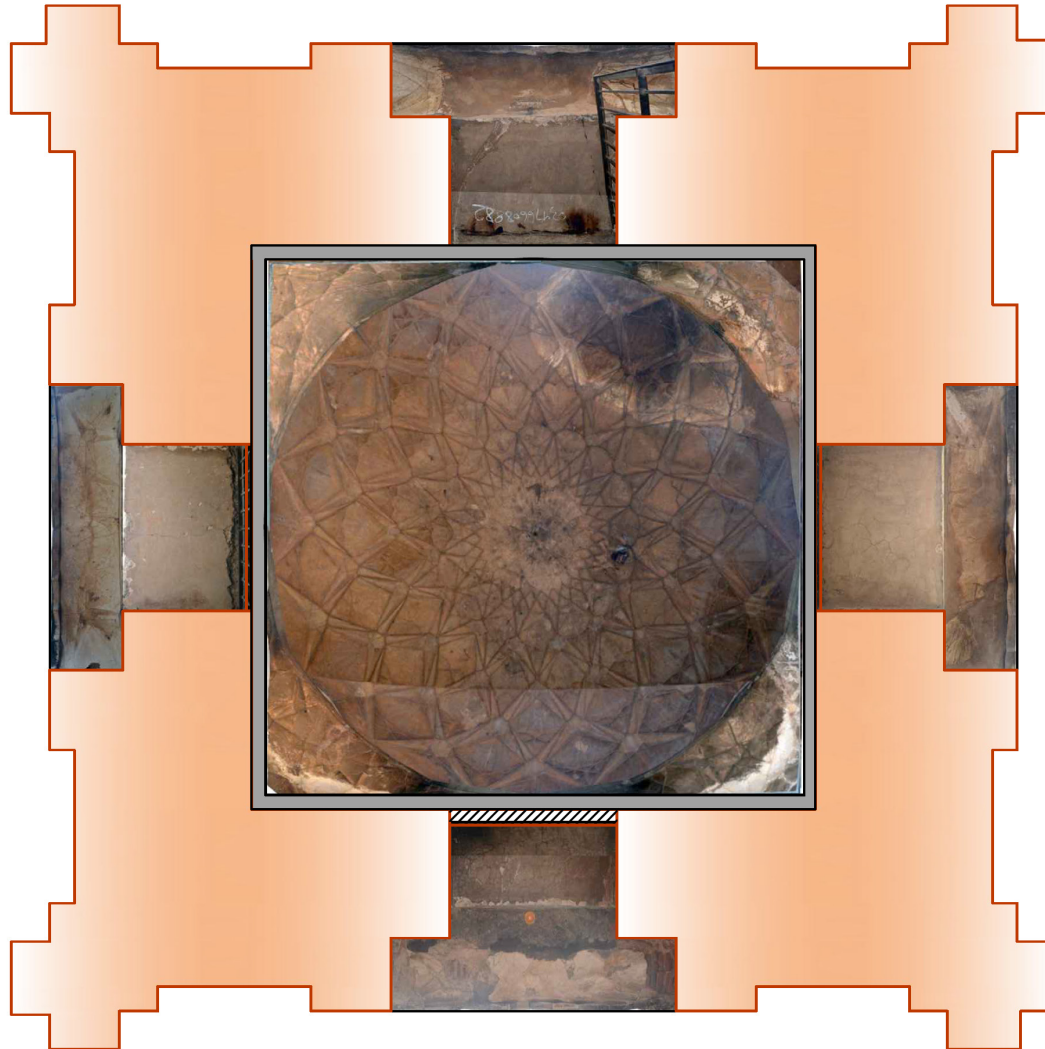
The soffit of the dome was finished in Qalib Kari. The design is executed in plaster in order to create a variety of pattern and lime work. It springs from the crown of the squinch arches and culminates at the center of the dome from the crown of the squinch arches. This tradition, which started during Akbar's period, remained popular throughout the period of the later Mughals as well, although it achieved its height of excellence during Shah Jahan's reign.

Qalib Kari

The soffits of the arches of the peshtaq were decorated with Qalib kari and fresco paintings in different colors. According to Latif, faint traces of the paintings existed in the year 1895. It is evident that no subsequent effort was made to restore these paintings. Presently, the only surviving painting that exists is in the peshtaq of the south side entrance.

Decorations on the Arches

CEILING PLAN



Fresco Paintings

Fresco paintings have been an essential element of Mughal architecture. This tradition started during Akbar's period in Lahore and reached its zenith in Shah Jahan's reign. The Mughals used a variety of themes in the decoration of the interiors. Jahangir's reign witnessed rise of the European influence in paintings. Soffits of the arches and domes were treated with such paintings. Floral decoration over stucco tracery was the most common feature of the interior design. The most common colors used were red, green and yellow.

The tomb of Khan-e-Dauran has a limited number of paintings. Various sources mention the existence of such paintings on the soffits of the arches of peshtaq. Only traces of such paintings now exist on the south side.⁴³



The traces of Qalib kari may be seen on arches of *Peshtaqs* while the fresco painting in deep red colour is still visible on the south side.



Qalib kari on the dome is similar to other structures as in the tomb of Dai Anga, and depicts a beautiful geometric pattern similar to modern computer-aided parametric design following strict geometric principles.

CONSERVATION PROCESS & AFTER CONDITION

The Tomb of Khan-e-Dauran was in bad condition due to missing brickwork, unsympathetic repairs with modern materials and erosion of plaster over the profile of arches. Though limited funds allowed only major restoration work to stabilize the structure but the difference between what the tomb looked like before the restoration work was undertaken and after it, is obvious. The cement concrete plaster was removed and the structure was strengthened which made it visually pleasing as well. The profile of the arches executed in lime mortar has been restored and the dome's drum

has been cleaned. The timeworn building once again presents a fresh look as compared to its old appearance.



Pictures on this page show different stages of documentation and cleaning of the tomb. Students actively participated throughout the workshop and became part of the history of restoration of this tomb.

NORTH ELEVATION AFTER CONSERVATION



The cement concrete plaster applied on the interior walls has been removed and finished with kankar lime plaster. Profiles of the arches were restored and loose bricks set in place.



All the loose and broken bricks of the graves were replaced by new bricks of the same size. The floor was preserved in its original condition.

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